



ANNUAL REPORT 2022



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OUR MISSION

To provide robust and practical knowledge and insights on global energy and sustainable development topics and communicate these for the benefit of the Foundation's members and the community.

OUR VISION

To be an internationally respected independent think tank that is a thought leader focussed on global energy and sustainable development topics.

OUR UNIQUENESS

The Al-Attiyah Foundation is the only independent, non-profit energy and sustainable development think tank in Qatar. Building upon H.E. Abdullah bin Hamad Al-Attiyah's work and forty years of service in the energy industry, the Foundation has quickly become a hub for thought leadership in the fields of energy and sustainable development domestically and internationally.

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ORGANISATIONAL SET UP OF THE FOUNDATION

CHAIRMAN

H.E. Abdullah Bin Hamad Al-Attiyah MANAGING DIRECTOR

Reda Ibrahim Ali



DIRECTOR

of Energy

DIRECTOR

of Sustainabile Developmen

DIRECTOR of Administratior

HEAD

HEAD Media and Communicatio

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MESSAGE FROM **THE CHAIRMAN**



CHAPTER 1 | ABOUT THE FOUNDATION



I am delighted to welcome you to the Al-Attiyah Foundation's Annual Report 2022. In this book, you will find detailed information on all the Foundation's publications, events, and achievements over the past 12 months.

The beginning of this decade has been challenging for us all. The pandemic forced most organisations to postpone key events and adjust to a 'new normal'. It was with great regret that the Foundation had to delay numerous activities to comply with necessary government restrictions - that kept us all safe - in 2020 and 2021.

However, 2022 was the year the global population was able to meet and connect once again. In November and December, over one million people descended on the State of Qatar for the FIFA World Cup. Fans of all backgrounds enjoyed scintillating football on the pitch and experienced my country's worldclass hospitality off it. I am immensely proud Qatar played such a unifying role in such uncertain times, and we look forward to welcoming more guests from abroad for future events.

The Foundation continues to go from strength-to-strength. With regular high-quality content, industry leading events and much more, my vision for the organisation to become a leading think tank in the region and the world is becoming a reality.

The Foundation's growing stature on the international stage was perhaps best highlighted by our very well attended dialogue session at the 2022 United Nations Climate Change Conference (COP27) in Sharm El Sheikh on November 14. 'Natural Gas - Does It Have a Role in the Energy Transition?' struck a chord with attendees of COP27 as it focused on a very pertinent topic and featured distinguished panellists who provided their expert insights.

It also gave me great pleasure to host the Abdullah bin Hamad Al-Attiyah International Energy Awards for Lifetime Achievement on October 12. More than 200 dignitaries attended the prestigious event where six exceptional individuals were recognised for their outstanding careers in the energy industry. The winners were leaders of the highest calibre and have been inducted into the Foundation's Alumni. I am already looking forward to the next awards that is scheduled for autumn 2023.

In closing, I would like to offer my sincere thanks to the Foundation's members and partners for their continued support. As we move into 2023 and beyond, I am excited to see what the Foundation can achieve for the benefit of our supporters and greater public.

H.E. Abdullah Bin Hamad Al-Attiyah

Chairman of the Board of Trustees of the Al-Attiyah Foundation and former Minister of Energy and Industry and Deputy Prime Minister of the State of Qatar

FOUNDATION BOARD OF TRUSTEES

1 H.E. Abdullah Bin Hamad Al-Attiyah

Chairman

Former Minister of Energy and Industry and Deputy Prime Minister of the State of Qatar

2 H.E. Dr. Ibrahim Ibrahim

Vice Chairman Former Economic Advisor at Amiri Diwan

3 H.E. Dr. Mohammed Bin Saleh Al-Sada

Member

Former Minister of Energy & Industry of the State of Qatar and Former Chairman of the Board of QatarEnergy

4 H.E. Ali Al-Naimi

Member

Former Minister of Petroleum & Mineral Resources, Kingdom of Saudi Arabia

5 H.E. Abdulaziz Bin Ahmed Al-Malki

Member Ambassador Plenipotentiary and Extraordinary of the State of Qatar to the European Union

6 H.E. Nasser Al Jaidah

Member QatarEnergy Board Member, and former CEO of Qatar Petroleum International

7 Mr. Hamad Rashid Al-Mohannadi

Member Former CEO of RasGas Company Limited

8 Mr. Fahad Bin Hamad Al-Mohannadi Member

Former General Manager & Managing Director of Qatar Electricity and Water Company (QEWC)

9 Mr. Reda Ibrahim Ali

Member

Managing Director of the Foundation

10 Mr. Howard Bevan

Secretary to the Board of Trustees

OUR MEMBERS

PLATINUM MEMBERS



QatarEnergy

QatarEnergy is the state-owned energy company of Qatar and world's largest provider of LNG. It is a fully integrated energy corporation, covering the full spectrum of the oil and gas value chain from exploration to production, from processing and refining to sales and delivery.



Woqod

WOQOD is the leading fuel distribution and marketing services company in Qatar. WOQOD supplies fuels to commercial, industrial, and government customers throughout the country, including natural and liquefied gas and JET A-1 refueling for aircraft.



QatarGas

QatarGas is the largest LNG producer in the world. It produces and supplies the globe with 77 million metric tonnes of LNG annually from across its seven ventures—Qatargas 1, Qatargas 2, Qatargas 3, Qatargas 4, RL1, RL2 and RL3.



QNB

QNB was established in 1964 as the State of Qatar's first locally owned commercial bank. In the intervening decades, QNB has grown to be the biggest bank in Qatar and the largest financial institution in the Middle East and Africa region.



QEWC

QEWC is the main supplier of electricity and desalinated water in the State of Qatar. The company has witnessed remarkable growth during the last decade in line with the steady growth of the economy of Qatar and the increase in population and the corresponding increase in demand for electricity and water.



GOLDEN MEMBERS



QATAR **A**

Dolphin Energy

Dolphin Energy is a gas company formed 1999. Its most important work to date is the Dolphin Energy Project which involves the production and processing of natural gas from Qatar's North Field, and transportation of the gas by offshore pipeline to the United Arab Emirates and Oman.

Qatar Airways

Qatar Airways is the multi-award-winning state-owned flag carrier of the State of Qatar. Since its formation in 1993, Qatar Airways has grown to become one of the world's leading airlines and now flies to more than 140 destinations across all six continents from the state-of-the-art Hamad International Airport in Doha.



ConocoPhillips

ConocoPhillips is an American multinational corporation engaged in hydrocarbon exploration and production across the world. In the State of Qatar, ConocoPhillips holds a 30 percent interest in Qatargas 3, a large-scale liquefied natural gas (LNG) project in Ras Laffan Industrial City.



Shell

Shell is one of the oil and gas industry's supermajors and by revenues and profits one of the largest companies in the world. Shell is the largest investor in Qatar and works closely with Qatar Energy on a number of projects including Pearl Gas-to-Liquids (GTL) and Qatargas 4.



QAPCO

QAPCO is one of the largest producers of low-density polyethylene (LDPE) in the region. LDPE is the most widely used type of plastic, with applications such as food packaging, agricultural films, toys, cables and wires, coating, lamination, and many other products.

SILVER MEMBERS



Qchem

Qchem is a joint venture between Mesaieed Petrochemical Holding Company, Chevron Phillips Chemical International Qatar Holdings LLC, and Qatar Energy. At its complex located in Mesaieed Industrial City, Qchem produces polyethylene, 1-hexene, and normal alpha olefins.



JTA

JTA International Holding was formed in 2010 with a vision to be the address company in providing unique and innovative financial services and investment solutions to businesses and iconic projects around the globe. Since, JTA have evolved to be an active investment solution provider through partnership and association with like-minded companies and individuals.



Gulf Helicopters

Gulf Helicopters is a helicopter services provider formed in 1970 in Doha, the State of Qatar. Although Gulf Helicopters mainly caters for the needs of the oil and gas industry, it also offers emergency medical services, VVIP transportation, aerial photography, and tourism flights. Gulf Helicopters operates approximately 50 helicopters of various types.



QAFCO

QAFCO is a world-class fertilizer producer that was founded in 1969 as a joint venture between the Government of Qatar and a number of foreign shareholders. Over the past five decades QAFCO has established itself as the world's largest single-site exporter of urea with up to 14% share of the global supply.



Marubeni

Marubeni is a major Japanese integrated trading and investment business conglomerate that handles products and provides services in a broad range of businesses across wideranging fields. In the State of Qatar, Marubeni is involved in a number oil and gas projects as well as in power plants and infrastructure ventures.



Sasol

Sasol is an international integrated energy and chemical company with over 33,000 employees based across 37 different countries. Sasol is a joint venture partner with QatarEnergy in ORYX GTL, the world's first commercial-scale GTL plant based in Ras Laffan Industrial City in Qatar.



AFFILIATE MEMBERS



Excelerate Energy

Excelerate Energy offers a full range of floating regasification services, from FSRU to infrastructure development to LNG supply. Excelerate Energy owns and operates one of the largest fleets of FSRUs in the industry and has safely delivered over 6,500 Bcf of natural gas. It opened its Doha office in 2018.



Qatarcool

Qatar Cool is the leading commercial provider of district cooling services in the State of Qatar. Qatar Cool currently owns and operates four cooling plants covering the West Bay and the Pearl-Qatar districts in Doha with the combined capacity of 237,000 tons of refrigeration.







OUR PARTNERS



Qatar Foundation

Qatar Foundation is a non-profit organisation made up of more than 50 entities working in education, research, and community development. Qatar Foundation's flagship initiative, Education City, is a campus that hosts branch campuses of some of the world's leading educational institutes, a homegrown university, and other research, scholastic, and community centres.



Hamad Bin Khalifa University

Hamad Bin Khalifa University is a homegrown research and graduate studies University that acts as a catalyst for positive transformation in the State of Qatar and the region while having a global impact. It was founded in 2010 and is a member of the Qatar Foundation.



Qatar University

Qatar University is the State of Qatar's primary institution of higher education and has become a beacon of academic and research excellence in the region. Qatar University offers the widest range of academic programs — 48 Bachelors, 32 Masters, nine Ph.D. programs, four Diplomas, and a Doctor of Pharmacy (PharmD) in Qatar tailoring them to meet the needs of Qatari society.



KAHRAMAA

Qatar General Electricity and Water Corporation "KAHRAMAA" was established in July 2000 in terms of Law #10 to regulate and maintain the supply of electricity and water to customers. KAHRAMAA has the privilege of being the sole transmission and distribution system owner and operator (TDSOO) for the electricity and water sector in the State of Qatar.



United Nations Global Compact

United Nations Global Compact is a special initiative of the UN Secretary-General that calls to companies everywhere to align their operations and strategies with Ten Principles in the areas of human rights, labour, environment, and anti-corruption. With more than 12,000 companies and 3,000 non-business signatories based in over 160 countries, and 69 local networks, the United Nations Global Compact is the world's largest corporate sustainability initiative.





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DATAR GREEN

The Gulf Organisation for Research & Development

The Gulf Organisation for Research & Development, a member of Qatari Diar Real Estate Investment Company, is a non-profit organisation spearheading the MENA region's sustainability milieu. Headquartered in Qatar Science and Technology Park, it targets all relevant dimensions of sustainability and Sustainable Development Goals (SDGs) of the United Nations.

Qatar Green Building Council

The Qatar Green Building Council is a non-profit, membership driven organisation providing leadership and encouraging collaboration in conducting environmentally sustainable practices for green building design and development in the State of Qatar. The council, a member of Qatar Foundation, was formally established in 2009 by a decree signed by H.H. Sheikha Moza Bint Nasser.



World Petroleum Council

The World Petroleum Council is a non-advocacy, nonpolitical organisation with charitable status in the UK and has accreditation as a Non-Governmental Organization (NGO) from the United Nations (UN). The WPC is dedicated to the promotion of sustainable management and use of the world's petroleum resources for the benefit of all.



Istituto di Alti Studi in Geopolitica e Scienze Ausiliarie

Istituto di Alti Studi in Geopolitica e Scienze Ausiliarie is a nonprofit social promotion association with a registered office in Rome, Italy. Founded in 2010, the association relies on the collaboration of dozens of researchers. The Institute combines the rigour of a scientific method with practical attention to the issues of international politics of our day.



Mitsui & Co.

Mitsui & Co. is a global trading and investment company with a diversified business portfolio that spans approximately 65 countries and regions in Asia, Europe, North, Central & South America, the Middle East, Africa, and Oceania. Mitsui has built a strong and diverse core business portfolio covering the Mineral and Metal Resources, Energy, Machinery and Infrastructure, and Chemicals industries.



National Council on U.S.-Arab Relations

The National Council on U.S.-Arab Relations is an American nonprofit, non-governmental, educational organisation dedicated to improving American knowledge and understanding of the Arab world. Its means for doing so encompass but are not limited to programs for leadership development, peopletopeople exchanges, lectures, publications, an annual Arab-U.S. policymakers conference, and the participation of American students and faculty in Arab world study experiences.



International Cooperation Platform

The International Cooperation Platform is an independent institution founded with the principle of enhancing proactive multilateral and inter-disciplinary cooperation for sustainable development. It has organised the Bosphorus Summit in Istanbul, Turkey since 2010.

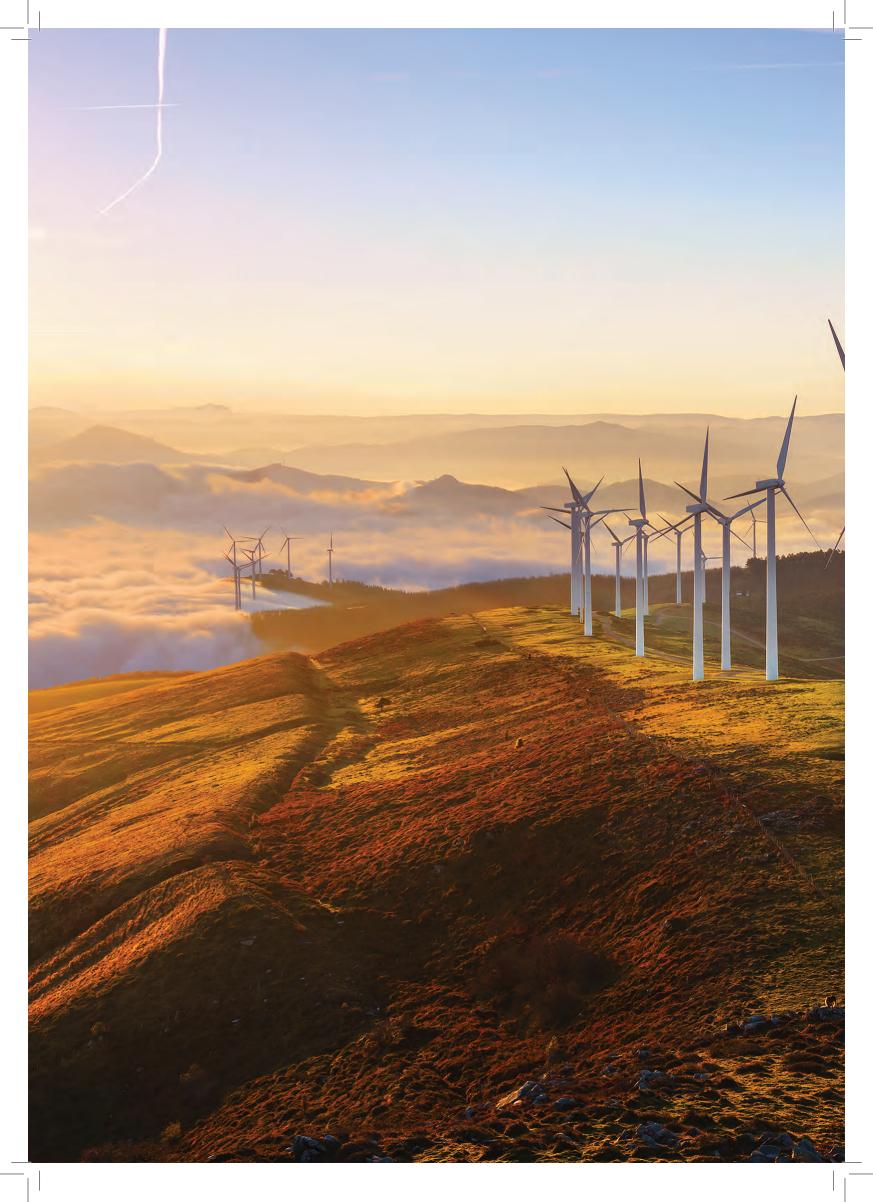
The Gulf Times

The first edition of the Gulf Times was published on December 10, 1978, as a weekly paper. Three years later, on February 22, 1981, the Gulf Times daily was launched. The Gulf Times comprises several sections: editorial, analysis, news, economy, sports, library and archives,

technical and local reports.







THE YEAR IN REVIEW



THE YEAR IN REVIEW

In 2022, the Al-Attiyah Foundation continued to provide its valued members, partners and wider public with industry leading reports on energy and sustainability, articles written by award-winning scholars on the most pressing issues of the day, podcasts with eminent figures in the field and opportunities for constructive dialogue through its events.

Highlights of Publications in Charts and Numbers





EDITIONS OF THE WEEKLY ENERGY MARKET REVIEW (WEMR)







MONTHLY ENERGY RESEARCH PAPERS

PODCASTS

WHITEPAPERS



ARTICLES



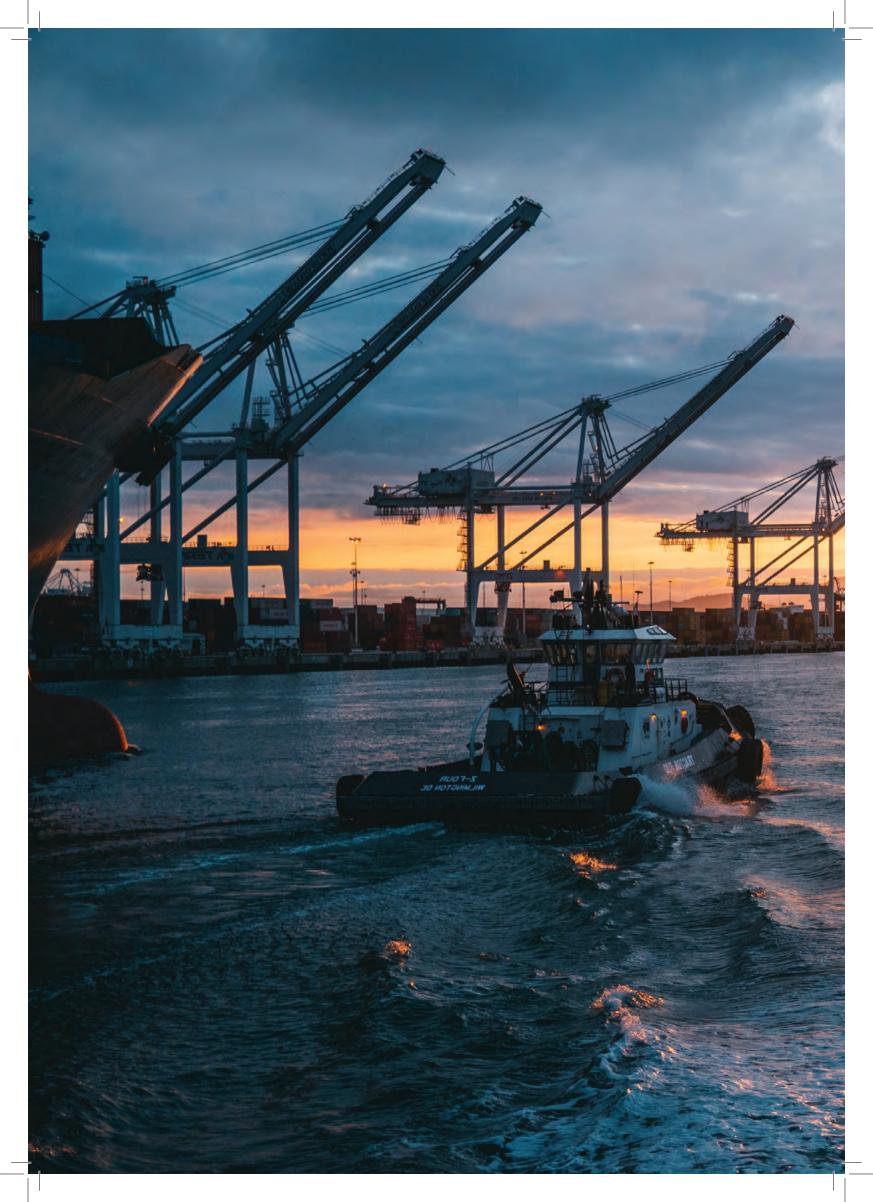
MONTHLY SUSTAINABILITY RESEARCH PAPERS





The Al-Attiyah Foundation ANNUAL REPORT 2022

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PUBLICATIONS

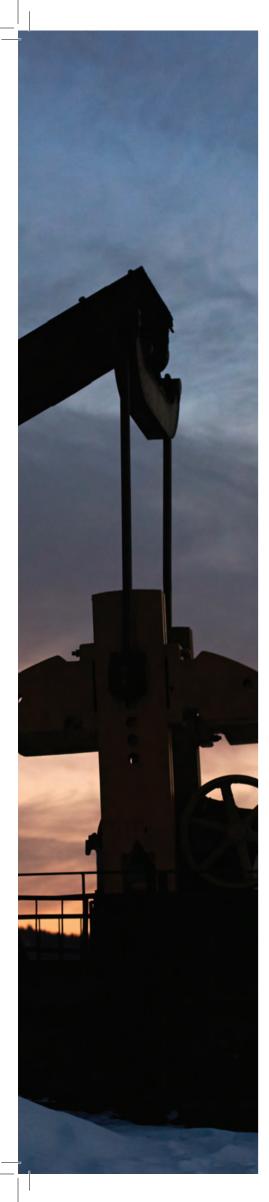
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- * ARTICLES
- *** ENERGY RESEARCH PAPERS**
- SUSTAINABILITY RESEARCH
 PAPERS
- * PAPERS
- WHITE PAPERS
- **PODCASTS**

THE YEAR IN ONLINE AWARENES





CHAPTER 3 | **PUBLICATIONS**



PUBLICATIONS OVERVIEW

Daily News Flash (DNF)

The DNF is a daily report that provides price updates on major oil and gas benchmarks. The report also highlights the major developments in the oil and gas market from the previous day.

Frequency: Daily, Monday to Thursday.

Weekly Energy Market Review (WEMR)

The WEMR is a weekly energy market review report that provides insights into the factors affecting both the markets and the oil and gas prices from the previous week.

Frequency: Weekly, every Sunday.

Energy Research Paper

The monthly Energy Research Paper provides robust, practical knowledge and insights on global energy development topics.

Frequency: Monthly.

Sustainability Research Paper

The monthly Sustainability Research Paper provides in-depth insights on prevalent sustainable development topics.

Frequency: Monthly.

White Paper

Following each Roundtable and Energy Webinar, a White Paper is published and distributed to capture the session's essential outcomes.

Frequency: Quarterly.

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ARTICLES

Local newspapers and leading industry websites published scores of articles written by the Al-Attiyah Foundation during 2022. These articles promoted the Foundation's events and publications and provided expert insight into the energy industry.

Publishing Date Headline 31 Jan 2022 Turning promises into policies! Europe Raises the Bar in the Fight Against Climate Change 14 Feb 2022 A Game Changer? Sovereign Wealth Funds to Shake up the Race to Net-Zero with Their Billions 09 Mar 2022 Is this the solution? Industry **CEO Roundtable:** Industry leaders leaders discuss how hydrogen discuss how hydrogen is changing the energy mix at is changing energy mix the Al-Attivah Foundation CEO NE NEWS NO Roundtable The catalyst for change? The EU's climate strategy sends ripple effects across the world Ukraine war could accelerate 25 May 2022 A wake-up call? The adoption of renewable energy Russia-Ukraine conflict could accelerate the adoption of renewable energy 16 Jun 2022 The most authoritative account to date. The Al-Attiyah Foundation delves deep into the world of ESG with new

guidebook



Publishing Date

Paper Title

11 Aug 2022

Pushing the Middle East to a Greener Future: How Voluntary National Reviews Could Be Key in the Fight Against Climate Change



17 Nov 2022

The Al-Attiyah Foundation at COP27: Experts say natural gas has a big role to play in the world's energy mix at a special event hosted by Qatar's leading thinktank



20 Dec 2022

Are Electric Cars our Future? An Al-Attiyah Foundation Special Report Answers One of the Most Pressing Questions of Our Time 10 | BUSINESS



The AI-Attiyah Foundation ANNUAL REPORT 2022



MONTHLY ENERGY RESEARCH PAPERS

January 2022

RESEARCH THEMES

THE FUTURE OF GAS IN THE EU'S ENERGY SECURITY

- Economic recovery, a decline in gas supplies from Russia, and increasing competition with Asian consumers for LNG supplies has led to low gas storage levels across Europe, prompting traders to speculate on a supply shock, thus pushing gas prices up.
- EU policymakers are concerned that Russia has used the gas crisis to lobby for the commissioning of the Nord Stream II Pipeline. The crisis has also underscored the diverging energy policies of EU member states.
- There are two opposing views on the EU's dependence on Russian energy supplies. The European Commission and member states such as Poland and Lithuania believe that Russia intends to use gas exports as a foreign policy and pressure tool, and the EU needs to explore alternatives to diminish the risk of gas restrictions, cut-offs, and / or unexpected price increases. Others such as Germany, Austria, and Hungary believe that dependence on Russian supplies does not pose a security risk to the EU.



February 2022

RESEARCH THEMES **POWER-TO-X**

- Power-to-X is a process through which electricity generated from renewable (or nuclear) sources is used to make hydrogen through electrolysis and used directly as an energy source or converted to synthetic gases and liquid fuels, by combination with atmospheric CO2 or biomass.
- A key element of Power-to-X is green hydrogen that is converted to synthetic gases through the Power-to-Gas pathway, or as liquid fuel through the Power-to-Liquid pathway.
- Power-to-Hydrogen is a subpathway of Power-to-Gas and involves using electrolysis to split water molecules to produce green hydrogen and oxygen using renewable electricity.
- Power-to-X not only opens opportunities to couple various end-uses such as the industrial, transport, power, and heating sectors, but also unlock their decarbonisation potential.



March 2022

RESEARCH THEMES IMPLICATIONS OF COP26 ON THE FUEL MIX

- The 26th UN Climate Change Conference of Parties (COP26) produced significant results, including the finalisation of international emissions trading rules and common timeframes to review countries NDCs. More importantly, it was the announcements and pledges signed outside the COP26 directives that have concrete implications for the energy landscape.
- The mobilisation of COP26 pledges could result in material change to forecasted temperature increases under business-as-usual (BAU) scenarios.
- Action on the COP26 directives as well as pledges could usher in a new form of "energy recession", wherein demand for fossil fuels continues to depreciate rapidly to 2050, resulting in a highly electrified energy mix. Such a recession would not be induced by oil price volatility, although this factor has subsequently risen in importance due to the impact of Russia's invasion of Ukraine.



April 2022

RESEARCH THEMES THE WORLD OF HYDROGEN

Same.

- Hydrogen demand scenarios show a diverse range of estimates given the differences in the pace and extent of hydrogen penetration across various industries. The expansion of the hydrogen industry in a net-zero by 2050 scenario, could lead to the global demand for low carbon hydrogen increasing by 7x from 2020-levels to more than 630 Mt H2 / year in 2050.
- At present, grey hydrogen dominates global supply, but the hydrogen rainbow is expanding with low-carbon blue and green supplies, a key step on the path to global carbon neutrality by 2050-60.
- The IEA estimates that a net-zero by 2050 scenario will require US\$1 trillion of cumulative direct investments in global hydrogen supply chains by 2030 and an additional US\$9 trillion between 2030 – 2050.







May 2022

RESEARCH THEMES ADVANCED BATTERIES: OUTLOOK & IMPACT

- Batteries as storage systems have advantages over traditional energy storage systems (such as pumped hydro and compressed air energy storage (CAES)) as they cross-cut different sectors, have quite high round-trip efficiency, and can provide rapid, dispatchable, and cost-effective bursts of stored energy over a short time at high power levels.
- They can level electricity loads, save fuel, improve plant efficiency, reduce emissions, and reduce the mechanical wear on cycling units. They can also control reactive power, voltage, and power factors; reduce power and frequency oscillations; and reduce the need for new transmission capacity by storing electricity close to peak loads.
- Batteries can play a revolutionary role in the energy transition by helping meet the 'Leave No One Behind' agenda of the Sustainable Development Goals (SDGs), which are intertwined with climate goals.







- Europe is expected to continue as the premium market this winter season and will compete for LNG cargoes with Asian buyers, to compensate for a decline in Russian pipeline deliveries. Customers with long-term oillinked contracts are much betterplaced than those reliant on the spot market or on JKM (Asia) or NBP or TTF (Europe) indexation.
- Asian buyers are witnessing an incremental increase in demand for LNG spot cargoes as they enter the summer season. However, they face continued supply and price risks stemming from the Russia-Ukraine conflict, which is likely to keep LNG prices elevated in the coming months.
- Countries with winter peaks for gas demand for heating (China, Japan, South Korea) face a more challenging environment than those with a summer peak for air-conditioning (south-east Asia) as they will be competing directly with Europe.

July 2022

RESEARCH THEMES CUTTING BACK ON COAL AFTER COP26

- The two most significant components of the Glasgow Climate Pact concluded at COP26 were the Global Coal to Clean Power Transition and the International Public Support for the Clean Energy Transition statement. The former is an agreement to accelerate efforts to phase-down global unabated coal consumption, and the latter is an agreement to end public financing for fossil fuel projects by the end of 2022 and phase-out 'inefficient' fossil fuel subsidies.
- In the short-term, rising natural gas prices following Russia's invasion of Ukraine have reversed natural gas-to-coal switching in many countries, despite a slowing global economy and COVID-19 related mobility restrictions in China. This trend will have to end quickly to meet the objectives of the Glasgow Climate Pact.
- In the long-term, the effectiveness of COP26's initiative will be determined by Asian coal-to-gas switching policies, the deployment of utility-scale renewables, and their use of carbon capture, use and storage (CCUS) to cut emissions.

CHAPTER 3 | **PUBLICATIONS**

August 2022

RESEARCH THEMES OCEAN ENERGY TECHNOLOGIES

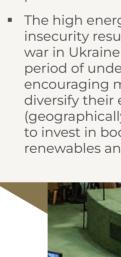
- Ocean energy technologies are differentiated based on the diverse types of resources they harness. Waves, tides, currents, winds, thermal differences, and salinity are the main resources.
- Their advantages include reliability and sustainability. Beyond technological and socio-economic benefits, they support climate change mitigation, and the development of a blue economy across island communities, remote coastal areas, and Small Island Developing States (SIDS).
- Despite their potential advantages, ocean energy (other than offshore wind) remains costly and technologically immature, with a very small scale of deployment.
- Currently, tidal barrage capacities dominate global ocean energy generation. However, the next decade should see an increase in capacity led by tidal stream and wave technologies, mainly across Europe.

September 2022

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RESEARCH THEMES **GEOPOLITICS OF THE ENERGY TRANSITION**

- The primary characteristics of the energy transition are 1) the electrification of end-use, 2) growth in renewable generation, and 3) improvements in energy efficiency and storage.
- These characteristics are driven by technological improvements that contribute to declining costs of renewable energy generation and storage; in addition to large-scale renewable energy capacity deployment backed by regulatory policies.
- The geopolitical risks associated with the energy transition are due to differences between renewables and fossil fuels in terms of geographic concentration of resources, storage, scalability, and production-cost structures.
- The high energy prices and insecurity resulting from the war in Ukraine and a past period of under-investment are encouraging many countries to diversify their energy sources (geographically and by type), and to invest in boosting domestic renewables and energy efficiency.





October 2022

RESEARCH THEMES HOW ARTIFICIAL INTELLIGENCE IS TRANSFORMING THE ENERGY INDUSTRY

- Al is not just one algorithm, tool, platform, or process; but an ecosystem of technologies and capabilities that can replace or augment human competencies. Al technologies have three layers to them: sensing, thinking, and acting.
- The potential applications of AI are near-endless in oil & gas operations as the technology becomes more mainstream with improvements in edge computing and quantum computing.
- In the upstream segment, AI enables operators to optimise field development from exploration to production, allowing effective and efficient interpretation of seismic data to identify hydrocarbon deposits, in addition to identifying optimal locations for drilling operations and optimising recovery. Autonomous vehicles can carry out monitoring and investigation for maintenance. Automated installations carry on production without the need for routine personnel, reducing logistic requirements and safety exposure.





November 2022

RESEARCH THEMES COP27 AND THE CONSEQUENCES FOR FOSSIL FUEL DEMAND

- COP27 in Egypt did not result in major breakthroughs in emissions mitigation or climate policy.
- Significant progress was made on "loss and damage" compensation. More limited advances occurred in carbon credit trading, the Technology Mechanism, and other specific areas.
- The impact of COP27 has largely been overshadowed by other developments, particularly relating to the Russia-Ukraine war and its energy impacts, major new policies in the US and EU, and global economic conditions.
- Progress following COP26 and the G20 meeting on 'Just Energy Transition Partnerships' (JETPs) with South Africa, Indonesia, Vietnam and potentially India and Senegal, is more directly consequential for emissions and energy use, as they target reducing coal use.



December 2022

RESEARCH THEMES HOW THE GLOBAL ENERGY CRISIS IS DRIVING GROWTH IN RENEWABLES

- The 2021 2022 increase in natural gas prices abruptly ended the 2014 – 2021 period of low fossil fuel prices. Renewable capacity deployment will continue to outpace fossil fuels in the global primary energy and electricity mix in the short and mediumterm.
- In the long term, renewable capacity additions will be driven by net-zero goals and climate policies, energy efficiency improvements, the replacement of coal, the declining cost of renewable electricity generation, and the need to bring modern energy to all, particularly in sub-Saharan Africa and South Asia.
- Electrification will be the mainstay of the transition to renewables. New electricity demand will be met through renewables, which some analysts project to account for 83% of the global electricity mix and 50% of the global primary energy mix by 2050.





SUSTAINABILITY **RESEARCH PAPERS**



RESEARCH THEMES POLICY & POLITICS: THE EU'S GREEN TAXONOMY

- The EU Taxonomy is a technical rulebook that identifies sustainable activities that contribute to the EU's green transition and comply with the Paris Agreement under the EU Green Deal. It aims to help financial actors and investors identify those of their assets that are sustainable.
- It aims to create security for investors, protect private investors from 'greenwashing', help companies become more climate-friendly, mitigate market fragmentation, and help shift investments where they are most needed.
- Differing definitions of "sustainability" and what constitutes a sustainable activity among EU member states has hampered the growth of green investments, while a lack of transparency and unclear reporting has implied higher costs for the real economy to raise capital for sustainable solutions.
- Public financing will not be adequate to meet the energy transition challenge, necessitating the mobilisation of private capital.

CHAPTER 3 | **PUBLICATIONS**

February 2022

RESEARCH THEMES CARBON MARKETS AFTER COP26: A PRICE ON CARBON

- Lessons learned from the Kyoto Protocol's Clean Development Mechanism (CDM) and the widespread development of carbon markets across the globe, led to the inclusion of an Article 6 on carbon markets at COP21 in 2015.
- Article 6 offers an international governance framework for deploying environmentally effective and transparent carbon markets. It can help to progressively increase carbon markets' environmental and social integrity, liquidity, and value.
- Internationally Transferred Mitigations Outcomes (ITMOs) allow a country that overachieves on its climate targets to transfer carbon credits to another country for use in meeting that country's targets. It mandates countries to apply corresponding adjustments to ensure each credit counts only towards one country's climate targets, thus eliminating the double counting which the Kyoto Protocol flexibility mechanisms were criticized for.





March 2022

RESEARCH THEMES THE ROLE OF THE WORLD'S FORESTS IN THE FIGHT AGAINST CLIMATE CHANGE

- Forests moderate climate change by absorbing ~15 billion tonnes / year of CO2, whilst deforestation, fires, and other disturbances released an average of 8.1 billion metric tonnes / year.
- The impact of forest growth or deforestation on atmospheric CO2 and climate change is the difference between CO2 absorbed by forest growth (i.e. carbon sink) and the CO2 emitted from deforestation and degradation (i.e. carbon source).
- Global forest stock currently stands at 557 billion m3, with the highest forest stock areas being the tropics mostly found in South America. Brazil has the largest forest growing stock with 120 billion m3, which accounts for 22% of the world's total forest growing stock.
- Deforestation contributes to global warming or cooling by changing the amount of sunlight that is reflected by the forest plantation, reducing evapotranspiration (which cools the air), affecting the release of aerosols and biogenic volatile organic compounds (which can affect cloud formation), and changing the roughness of Earth's surface (that can affect wind speed).





April 2022

RESEARCH THEMES THE 2030 SDGS VOLUNTARY NATIONAL REVIEWS: ARE THEY ENOUGH?

- As part of its follow-up and review mechanisms, the 2030 Agenda encourages member states to "conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven", known as voluntary national reviews (VNRs).
- The high-level political forum (HLPF), that meets annually under the Economic and Social Council (ECOSOC), is the central UN platform tasked with reviewing progress towards the SDGs at a global level, as well as towards the 2030 Agenda.
- The VNRs are a powerful communication tool to raise awareness in government and society about the 2030 Agenda and the SDGs. They allow countries to take stock of and assess progress and shortcomings in their implementation of the goals.





May 2022

RESEARCH THEMES INVISIBLE MENACE: WHAT WILL IT TAKE TO IMPLEMENT THE GLOBAL METHANE PLEDGE?

- Methane is the Earth's second most important greenhouse gas (GHG) accounting for 20% of the total GHG emissions. It is responsible for 30% of the increase in global temperatures and presents a short-term global warming effect.
- Around 50 65% of global methane emissions are from anthropogenic sources, from which 46% of the emissions are from the energy sector.
- China, India, the United States, Russia, and Brazil collectively account for 28% of total anthropogenic methane emissions, with varying sources of emissions in each country.
- In 2021, the United States and the European Union led the Global Methane Pledge, which aims to reduce global methane emissions by 30% from 2020 levels by 2030.

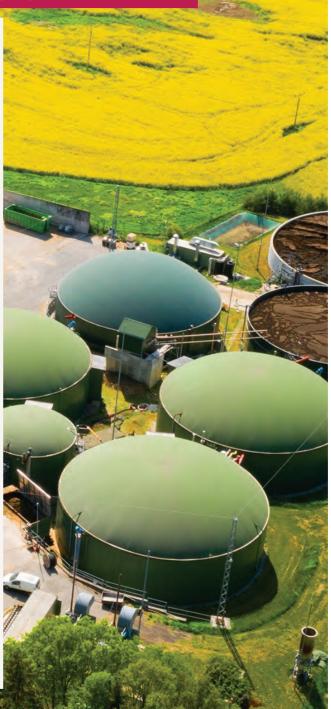


CHAPTER 3 | **PUBLICATIONS**



RESEARCH THEMES **AFFORDABLE & CLEAN ENERGY FOR ALL: THE ENERGY MIX UNDER SDG7**

- Sustainable Development Goal 7 (SDG7) enjoys a unique position amongst the 17 goals developed by the United Nations General Assembly (UN-GA) in 2015. It is one of the few goals to share interlinkages with almost all other SDGs. This is because energy underpins the successful realisation of wellbeing, economic development, environmental and climate protection, and poverty alleviation.
- Progress on SDG7 has increased significantly over the last halfdecade but remains patchy across its sub-goals (also known as indicators), and is still not nearly enough to be on track to be fully realised by 2030.
- Between 2010 and 2019, 130
 million people gained access
 to electricity annually, but this
 figure decreased to 109 million
 between 2018 and 2020, mainly
 due to logistical complexities as
 a result of the Covid-19 pandemic
 that increased the challenges
 of reaching poor, remote, and
 underserved populations.
- Intensified policy support and cost reductions will continue to push the share of modern renewables in global final energy, but a higher share of renewables alone will not be sufficient to realise the overall aim of SDG7.





July 2022

RESEARCH THEMES DRYING UP: CLIMATE CHANGE & WATER SCARCITY

- Water is essential for sustainable development and is critical for food security and healthy ecosystems. It is vital for reducing the global burden of disease and improving the health, welfare and productivity of populations.
- Changes in the global water cycle have increased the occurrence and impacts of events, such as major natural disasters, ecological changes, temperature rises, food insecurity, socio-political tensions, and energy vulnerability. In turn these events damage the ability to manage the water sector effectively, and further encourage unsustainable practices.
- The impacts of climate change on water availability underscores the challenge of meeting its demand for energy, agriculture, industry, transport, and human consumption in a judicious and sustainable manner, particularly in areas of the world already facing water stress.

August 2022

RESEARCH THEMES THE ROLE OF THE MIDDLE EAST IN GLOBAL CLIMATE DIPLOMACY

- The Middle East is significantly impacted by climate change, both "present and future". It is one of the areas that are most vulnerable to sea level rise.
- Attention on the effects of climate change on the region has seen a meaningful increase only in the last half-decade as part of the global movement to mitigate and adapt to its worst impacts.
- COP18 hosted by Qatar in 2012 was the first in the Middle East, and it brought to limelight the changing perception of Middle Eastern nations with respect to environmentalism and climate action.
- Ambitious visions for low-carbon strategies in the form of giant renewable projects and new global partnerships seek to establish the region as an integral partner of the international climate action project.



September 2022

RESEARCH THEMES MIND THE GAP: ENHANCING NDCS BEFORE COP27

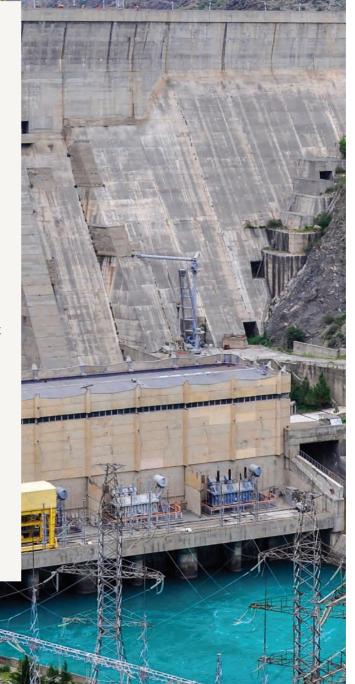
CCP27 SHARM EL-SHEIKH EGYPT2022

- At COP26, it was flagged that countries' first nationally determined contributions (NDCs) were drastically less than required to limit the global temperature rise to 1.5°C.
- Out of 194 NDCs, 140 were updated before the start of COP26. This represents a coverage of just over 72%. By September 2022, this number increased to 151, so coverage is still not complete.
- A key reason for the remaining countries' failure to update their NDCs is the perception that a scaled-up climate action plan would not be in alignment with their envisaged economic development needs.
- Also, some updated NDCs are a mere resubmission of the previous NDC with creative obfuscations to appear enhanced, and do not really signal a scale-up of ambition in meeting the Paris Agreement goals.

October 2022

RESEARCH THEMES TECHNOLOGY AND CLIMATE CHANGE

- Global investments to date in climate change technology have given more attention to mitigation in preference to adaptation. Technological innovation and R&D are more focussed on mitigation in the energy sector than in others (such as agriculture), while adaptation takes a backseat.
- There are few estimates for how much adaptation technologies can contribute to the Paris Agreement goals and lack proper and detailed assessment in comparison to emissions pathways for mitigation technologies.
- Adaptation strategies that target "baked in" climate impacts can highlight the benefits to human welfare, thereby generating support for climate action plans (CAPs) and national adaptation plans (NAPs) and bolstering policy objectives of reducing global emissions.
- The US Green New Deal and the EU Green Deal are examples of such policy approaches that link adaptation benefits with mitigation objectives to increase overall mitigation action.



November 2022

RESEARCH THEMES THE JUST TRANSITION TO A WORLD POWERED BY SUSTAINABLE ENERGY

 Climate action plus social inclusion equals a just transition. Climate-based investment alone cannot meet critical climate targets without simultaneous and aggressive action on social goals.

1000000 2110000000

- The just transition as a concept has become an important consideration in leading climate action scenarios that achieve the Paris Agreement's 1.5°C warming limit and several net zero ambitions, although there is no cohesive methodology to estimate its contributions.
- The just transition is often framed as a necessary way to achieve the energy transition while protecting communities and social welfare. However, it could also be seen in reverse: energy transition pathways that are seen as "unjust" will face strong public and political opposition and may therefore not be viable to pursue.
- Extractive economies are under increasing pressure to remodel to "regenerative" as deadlines for climate and sustainable development targets draw nearer.



CHAPTER 3 | **PUBLICATIONS**

December 2022

RESEARCH THEMES COP27: TAKING STOCK

- Expectations around COP27, held in Sharm El-Sheikh, Egypt on 6-20 November, were not as high as in 2021, mainly due to momentum on climate action being impacted by geopolitical tensions, and to few major specific items of deadlock or decision on the agenda.
- Issues addressed at COP27 were expected to have an African-Middle Eastern pivot, including adaptation, finance, loss and damage, and food resilience.
- Updates to countries' Nationally Determined Contributions (NDCs) were disappointingly low during COP27, with only five countries submitting official updates, due to a dimmer focus on climate action in 2022 and geopolitical upheavals impacting energy systems.
- The impact of recent geopolitical events is seen in the "fossil fuel flow" in COP27 negotiations. Gas companies billed themselves as "climate leaders" in the fight against global warming and as "enablers of the transition and energy security".



WHITE PAPERS

March 2022

DISCUSSION THEMES WEBINAR SERIES: STEPPING UP THE PACE OF HYDROGEN DEVELOPMENT

 The International Renewable Energy Agency (IRENA) forecasts hydrogen will account for nearly 12% of global energy use by 2050, providing a \$2.5 trillion investment opportunity through to 2050 for utilities, equipment makers and others seeking to reduce their emissions.



- While widespread demand for clean hydrogen will likely emerge only in the mid-2030s, during the current decade there will be a race to develop technologies to produce and deliver green hydrogen at industrial scale.
- Hydrogen production will grow exponentially over the coming decades, with the lightest element known to humanity pivotal to slowing global warming. Yet reducing costs to make the gas commercially competitive versus fossil fuels remains a significant challenge.

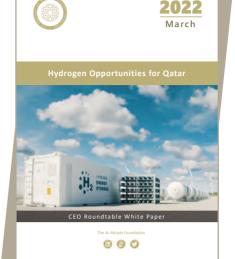


March 2022

DISCUSSION THEMES

CEO ROUNDTABLE: HYDROGEN OPPORTUNITIES FOR QATAR

- Qatar has a clearly identifiable large source of hydrogen in the North Field.
- Qatar has a good track record of delivering complex world scale projects and the capability to implement further projects with current strategic partners.
- Qatar has transferable skills in running very low temperature distillation projects and in shipping low temperature cargoes.
- There are skills and entities already in place to encourage new trading opportunities in hydrogen or related commodities.



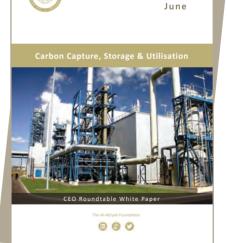


2022

June 2022

DISCUSSION THEMES CEO ROUNDTABLE: CARBON CAPTURE, STORAGE & UTILISATION

- The technology for carbon capture is no longer novel but is based on well understood technology.
- Clear national or international policies that encourage faster adoption of the technology, such as subsidies, tax incentives or in particular cases definite and identifiable commercial incentives, are needed.
- There are definite opportunities for Qatar to take a lead in the production of low carbon LNG, blue hydrogen, and blue ammonia.
- If added to existing electricity generation, carbon capture retrofitting would greatly reduce Qatar's carbon footprint.







June 2022

DISCUSSION THEMES WEBINAR SERIES: ESG TRANSFORMATION

- Corporate leaders see ESG as an opportunity rather than a compliance issue to overcome, but the fraught global business environment following the pandemic and the ongoing war in Ukraine has made setting and fulfilling ESG targets a lesser priority.
- Yet adopting ESG principles brings numerous challenges such as identifying the best reporting framework to implement and the lack of standards to measure results or impact. These issues have slowed progress. For example, while



2022

the UN Principles for Responsible Investment (PRI) signatory list includes 431 private equity firms worldwide, only 16 disclose ESG's impact on their financial returns, and just half use ESG principles in monitoring portfolio companies, according to Institutional Investor.

Implementing the core principles of ESG has become the hallmark of socially responsible companies. Gone are the days when investors looked solely at potential profitability and financial risk when making investment decisions.

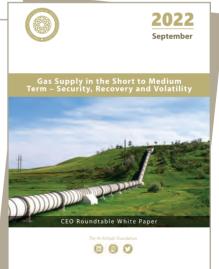


September 2022

DISCUSSION THEMES

CEO ROUNDTABLE: GAS SUPPLY IN THE SHORT TO MEDIUM TERM - SECURITY, RECOVERY AND VOLATILITY

- The ongoing competitions such as, Europe versus Asia for gas supplies; long versus short contracts; Russia versus Europe in terms of sanctions and supplies; and government policy versus market setting prices, were discussed extensively, and attributed as the causes of current market volatility.
- Today's record prices could have been averted by European gas buyers if they had foreseen the need to diversify their sources of supply and different types of contracts.
- While the price spikes in gas prices and the supply situation pose some challenges in the short to medium-term, the situation could be turned into opportunities in the longerterm, if suppliers and buyers are prepared to apply lessons learned and avoid the repeat of past mistakes.





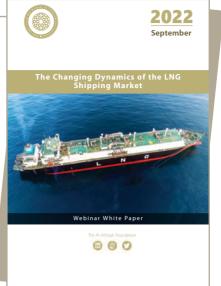
CHAPTER 3 | **PUBLICATIONS**

September 2022

DISCUSSION THEMES

WEBINAR SERIES: THE CHANGING DYNAMICS OF THE LNG SHIPPING MARKET

 The LNG industry is facing major economic and political shifts. Supply had already been struggling to keep up with rebounding demand as economic activity normalised following the peak of the pandemic before sanctions on Russian energy cargos, which subsequently reduced pipeline gas deliveries from Russia to Europe.



- Seeking energy security, and as winter approaches in the Northern Hemisphere, countries that were reliant on Russia's energy supplies have turned to LNG to meet supply shortfalls. However, much of LNG supply is delivered on pre-agreed terms for both price and quantities. The spot market for LNG is more limited, so prices for LNG have surged.
- This has impacted the market for LNG tankers. Again, the LNG tanker market has followed the LNG cargo market and matched tankers with contracts. Consequently, the spot tanker rates have also soared, hitting record highs amid strong demand and limited supply.
- LNG tankers take several years to build. New LNG export facilities need new tankers. It is the accepted practise to book building slots with ship builders to coincide with new LNG facilities. LNG ship construction facilities are now full well into the second half of the decade, according to maritime engineering and technology solutions specialist Lloyd's Register.





November 2022

DISCUSSION THEMES

WEBINAR SERIES: FROM GLASGOW TO SHARM EL SHEIKH: HOW WILL COP27 RESHAPE THE GLOBAL ENERGY LANDSCAPE?

- COP26 in November 2021 was one of the most significant summits on climate change, leading to new pledges from world governments to cut emissions and accelerate the green energy transition.
- The Glasgow summit yielded several breakthrough agreements, including the Global Methane Pledge, the Zero Emission Vehicle Pledge, the Deforestation Pledge, and the Glasgow Pact. Under the Glasgow Pact, countries agreed to revisit and strengthen their Nationally Determined Contributions (NDCs) in 2022 – instead of every five years.
- The last time these targets were updated was in 2020. Several countries have since committed to more ambitious emissionreduction goals in an effort to limit the global temperature rise to 1.5 °C.





CHAPTER 3 | PUBLICATIONS



The Al-Attiyah Foundation ANNUAL REPORT 2022



Presenter

THE FUTURE OF ENERGY WITH STEPHANE MICHEL

Key questions:

- How can TotalEnergies become a top five producer of renewable energy by 2030?
- What is the geographical spread of the TotalEnergies' renewable projects?
- How will TotalEnergies 100GW of renewable energy be delivered to end users?
- What role will hydrogen and carbon capture, utilisation and storage play in the future at TotalEnergies?

Guest:

Stéphane Michel, President of Gas, Renewables & Power at TotalEnergies SE and a Senior Vice President at Total E&P Oatar Ltd

Moderator:

Stephen Cole, International News Anchor and Television Presenter



ENERGY SECURITY IN EUROPE WITH ROGER DIWAN

Key questions:

- What effect with the conflict in Ukraine have on energy supply?
- What is likely to happen to the refined products trade in Europe?
- Could Russia ever stop gas delivery to Europe?
- How long until Germany's new LNG facilities come into effect?

Guest:

Roger Diwan, Vice President of Research and Analysis, Upstream at IHS Markit

Moderator:

Stephen Cole, International News Anchor and Television Presenter





The Al-Attiyah Foundation ANNUAL REPORT 2022



07 Jul 2022

COMPUTING DEVELOPMENTS IN THE ENERGY INDUSTRY WITH MOHAMED HASAN

Key questions:

- How is modern-day computing applicable to the energy industry?
- Can new GHG monitoring technology help the world meet climate change goals?
- Did work-from-home software exist in its current iterations before the pandemic?
- What are your thoughts on employee monitoring technologies?

Guest:

Mohamed Hasan, Energy and Sustainability Director, Microsoft MENA

Moderator:

Stephen Cole, International News Anchor and Television Presenter





27 Jul 2022

A NEW NORMAL - THE CHANGING FUTURE OF ENERGY WITH ALAIN BIFANI

Key questions:

- Will current events in Ukraine and disruption of supply chains lead to a global recession?
- How difficult was it to implement your plans as Director General of the Ministry of Finance in Lebanon?
- How could the quality of life in Lebanon be improved?

Guest:

Alain Bifani, former Director General of the Ministry of Finance in Lebanon

Moderator:

Nawied Jabar Khyl, Director - Head of International Media Relations at APCO Worldwide





AFTER THE CRASH - PROGRESS SO FAR WITH DR. TATIANA MITROVA

Key questions:

- Can Europe obtain sufficient non-Russian gas to be comfortably warm next winter?
- Has Europe's energy market ever been so vulnerable?
- Is it practical for European nations to receive gas from the likes of Iran or Azerbaijan? What role can Turkey play in such a deal?
- Asian and European nations have moved to reopen coal plants. Will the current geopolitical situation affect the targets of the 2015 Paris Agreement?

Guest:

Dr. Tatiana Mitrova, Research Fellow at the Center on Global Energy Policy at Columbia University

Moderator:

Axel Threlfall, Editor at Large, Reuters





24 Oct 2022

GAS AND ITS INFRASTRUCTURE - TRENDS IN FRANCE AND THE REST OF EUROPE WITH JEAN-MARC LEROY

Key questions:

- The number of women holding high level management positions in major companies in France has grown greatly in the past few decades. Is this a cultural change that seeks to address underrepresentation of women in industry?
- Engie has adopted the French government's energy transition policy and has pledged that 10% of the gas it supplies to its customers will be "green" by 2030. Is this target possible and where will the green gas come from?
- Is the European Union's commitment to reduce greenhouse gas emissions by at least 40% by 2030 feasible?
- Gas has always taken second place to nuclear in France as a source of electricity. Now nuclear is viewed as "green", will the role of gas diminish in France?

Guest:

Jean-Marc Leroy, Former Vice President for External Relations at Engie

Moderator:

Axel Threlfall, Editor at Large, Reuters





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A NEW NORMAL - THE CHANGING FUTURE OF ENERGY (PART II) WITH LAURENT VIVIER

Key questions:

- Does TotalEnergies' name change reflect the company's increasing interests and projects in areas of non-fossil fuel-based sources of energy?
- Will it be a "cold winter" in France and the rest of Europe?
- Considering the global transition to renewable sources of energy, will TotalEnergies' newly announced oil projects have short life spans?
- TotalEnergies has been very active with LNG projects in Qatar for decades. What is the scope of your current involvement in Qatar LNG?

Guest:

Laurent Vivier, Senior Vice President MENA -Exploration & Production, TotalEnergies.

Moderator:

Nawied Jabarkhyl, Director - Head of International Media Relations at APCO Worldwide





06 Dec 2022

A DAY IN THE LIFE OF AN LNG TRADER WITH SAAD RAHIM

Key questions:

- What is toll processing, why is it unique to the US and is it something that LNG traders participate in?
- Is the major benchmark for indexation still Brent or will other benchmarks become more common such as Henry Hub, TTL or JKM?
- Is the demand and supply of gas out of balance because of the reduction of gas supplies out of Russia into Europe or are the current high prices due to the market seeking to maintain a balance?
- Are Russian gas suppliers discounting gas prices heavily to sell excess supplies of gas?

Guest:

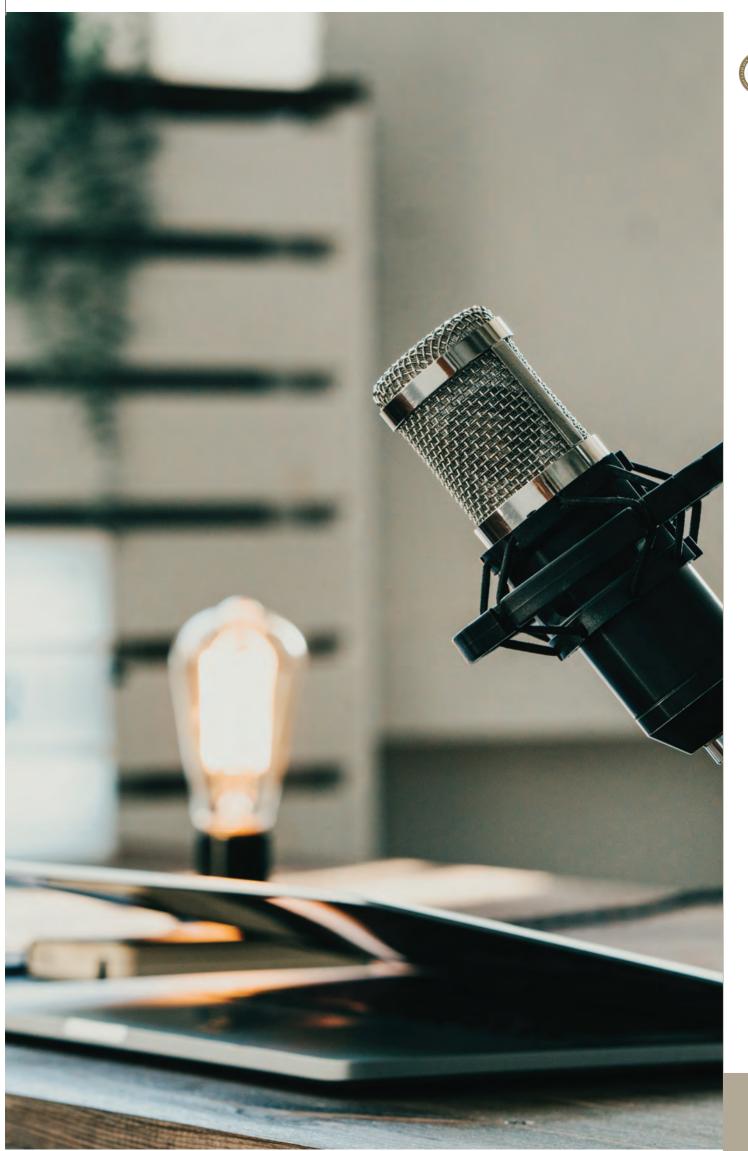
Saad Rahim, Chief Economist, Trafigura Group

Moderator:

Stephen Cole, International News Anchor and Television Presenter







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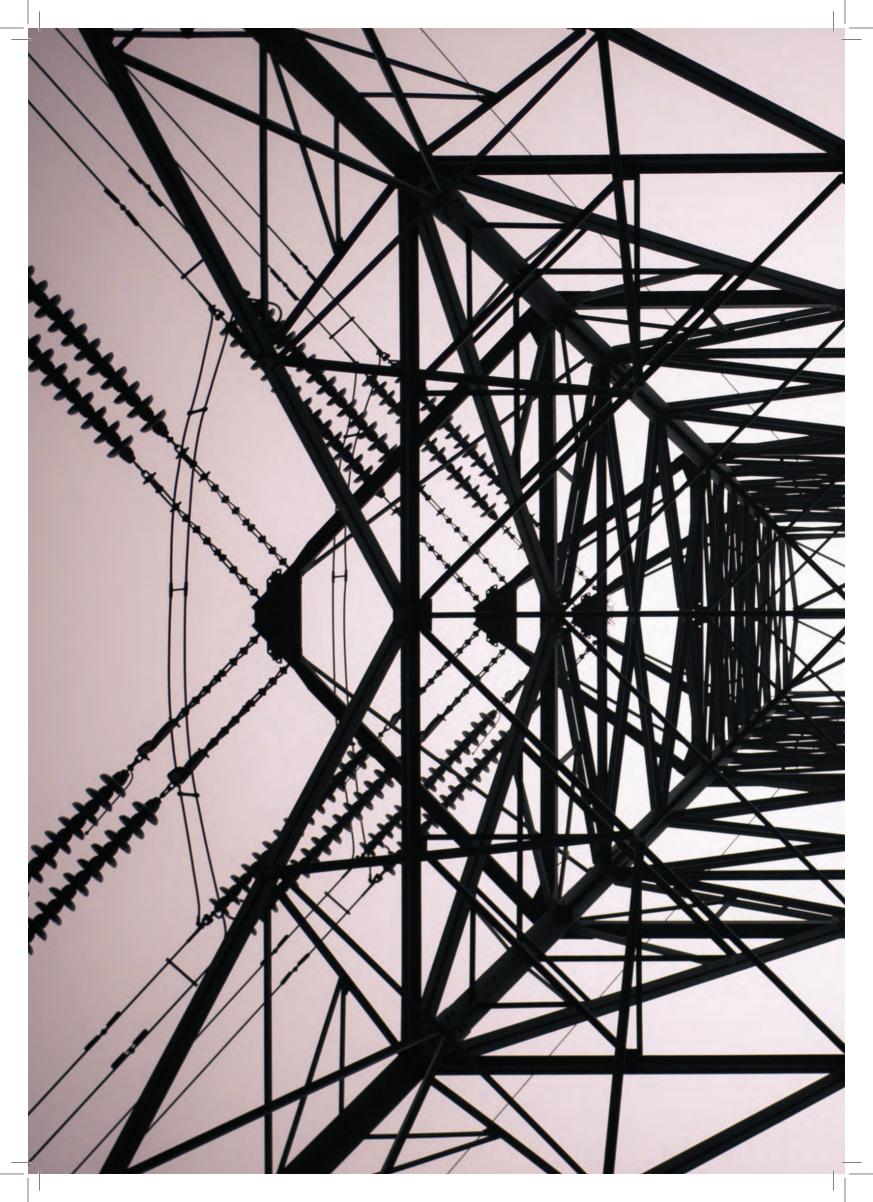
THE YEAR IN ONLINE AWARENESS

KEY FIGURE



New followers across all platforms in 2022





EVENTS

- * THE ABDULLAH BIN HAMAD AL-ATTIYAH AWARDS FOR LIFETIME ACHIEVEMENT
- ***** THE FOUNDATION AT COP27
- *** ENERGY WEBINAR SERIES**
- *** CEO ROUNDTABLE**
- *** OTHER HIGHLIGHTS**







CHAPTER 4 | EVENTS



THE ABDULLAH BIN HAMAD AL-ATTIYAH AWARDS FOR **LIFETIME** ACHIEVEMENT

The United States' 69th Secretary of State, Mr Rex Tillerson, was among the winners at the Abdullah Bin Hamad Al-Attiyah International Energy Awards for Lifetime Achievement, held at the Sheraton Grand Doha Resort & Convention Hotel on October 12, 2022.

Over 200 dignitaries attended the prestigious event where six exceptional individuals were honoured for lifetime achievements in their fields of work and policy.

The individuals recognised for their exemplary careers in the energy industry included Charif Souki, Executive Chairman of the Board of Tellurian, who collected the Advancement of Natural Gas prize; Alexander Kemp, Professor of Petroleum Economics and Director at the University of Aberdeen, who picked up the Advancement of Education for Future Energy Leaders gong; Professor Martin Green, Scientia Professor at the University of New South Wales, who won the Advancement of Renewables award; and John Kingston, Director of Global Market Insights for S&P Global, who was recognised with the Advancement of Energy Journalism accolade.

The Advancement of Qatar's Energy Industry and the Advancement of International Energy Policy and Diplomacy awards were collected by Fahad Hamad Al-Mohannadi, former Managing Director of QEWC, and Mr Tillerson, the former Chairman and Chief Executive Officer of Exxon Mobil Corporation.

To ensure only the worthiest industry leaders receive the prestigious Lifetime Achievement award, in the months before the event the Al-Attiyah Foundation creates an International Selection Committee - made up of previous winners - to submit a list of outstanding candidates. The Committee independently scores the applicable nominees in six award categories for their performance. The categories are impact, leadership and partnership, innovative and creative thinking, and long-term vision.



THE ABDULLAH BIN HAMAD AL-ATTIYAH AWARDS FOR LIFETIME ACHIEVEMENT

Fahad Hamad Al-Mohannadi

Former Managing Director of Qatar Electricity and Water Company (QEWC)

Lifetime Achievement for the Advancement of Qatar Energy Industry

Charif Souki

Executive Chairman of the Board of Tellurian

Lifetime Achievement for the Advancement of Natural Gas



Professor Alexander G. Kemp

Professor of Petroleum Economics and Director, Aberdeen Centre for Research in Energy Economics and Finance (ACREEF) at the University of Aberdeen

Lifetime Achievement for the Advancement of Education for Future Energy Leaders

Professor Martin Green

Scientia Professor at the University of New South Wales, Sydney and Director of the Australian Centre for Advanced Photovoltaics

Lifetime Achievement for the Advancement of Renewable

John Kingston

Director of Global Market Insights for S&P Global

Lifetime Achievement for the Advancement of Energy Journalism

Rex Tillerson

69th United States Secretary of State

Lifetime Achievement for International Energy Policy and Diplomacy



THE AL-ATTIYAH Foundation at COP27

Global experts examined the future of natural gas in the energy mix during an event hosted by the Al-Attiyah Foundation at the 2022 United Nations Climate Change Conference (COP27) in Sharm El Sheikh on 14 November. The unique Energy Dialogue session, titled 'Natural Gas - Does It Have a Role in the Energy Transition?' featured the following panellists: Dr. Chris Gentle, Senior Advisor, Partnerships and New Ventures at the World Energy Council; Lorna Ritchie, Director at Global Counsel; and the Foundation's Directorate of Sustainability. The lively debate was moderated by the highly acclaimed broadcast journalist and Reuters Editor-at-Large Axel Threlfall and explored how natural gas has been replacing coal in societal functions such as electricity generation and space heating in the western world for decades.





ENERGY WEBINARS

07 Mar 2022

STEPPING UP THE PACE OF HYDROGEN DEVELOPMENT

Session Overview:

- Global interest in hydrogen has grown substantially in recent months as countries develop strategies to decarbonise their economies. Driven by the strong commitment to net zero-emission and the urgency of action on climate change, the International Renewable Energy Agency (IRENA) estimates that hydrogen will account for nearly 12 %of global energy use by 2050. As such, the hydrogen revolution could provide a \$2.5 trillion investment opportunity through 2050 for utilities, equipment makers and others seeking to curb their emission intensity.
- With demand for clean hydrogen expected to take off in the mid-2030s, this decade will likely witness a great race for technological developments, according to IRENA. Businesses worldwide are already moving towards scaling up the hydrogen value chain with new demonstration projects and alliances, as well as dedicated infrastructure funds and industrial hubs in a collective effort to accelerate innovation and bring down costs.
- On the supply side, consortia of the world's largest energy firms are spearheading the development of the hydrogen market given their ability to deliver these projects and their interest in hydrogen. On the demand side, leading brands continue to look for renewable alternatives, which is likely to trigger a hydrogen equivalent of the PPA market that emerged in the electricity market.

Session Speakers:

- Charley Rattan, Offshore Wind & Hydrogen
 Corporate Advisor, Charley Rattan Associates
- Josh Carmichael, Vice President of Hydrogen, Wood
- Driss Berraho, Director Business Development -Renewables & Green Hydrogen, ACWA Power
- Jeffrey Beyer, Managing Director, Zest Associates

Session Moderator:

 Stephen Cole, International News Anchor and Television Presenter



14 JUNE 2022

ESG TRANSFORMATION: SEIZING THE OPPORTUNITY

Session Overview:

- Environmental, social, and governance standards (ESG) have become the hallmark of socially responsible investors. Gone are the days when investors look solely at the potential profitability and financial risk when making an investment decision. Today, many investors and financial institutions consider it essential to align their portfolios with ESG performance, believing that companies that perform well on ESG are better positioned for the long term, and better prepared for risk and uncertainty.
- As a result, companies are increasingly weaving ESG considerations into their business models. They realize that they are more likely to succeed, and drive returns if they create value for all their stakeholders, and the wider society. They also understand that ESG transformation is critical to gaining market share, engaging employees, and raising capital. According to a new report by Broadridge, ESG investments are poised to grow from \$8 trillion in 2021 to \$30 trillion by the end of this decade.
- While ESG was temporarily deprioritized in the face of Covid-19, activity is set to increase as the world recovers from the pandemic. An Edelman Trust Barometer survey carried out in September 2020 found that 88% of institutional investors globally are using ESG performance indicators in making investment decisions. Indeed, the Covid-19 crisis, and the economic uncertainty brought about by the war in Ukraine, present an opportunity for businesses to focus on their ESG performance.

Session Speakers:

- Ali Al-Shabibi, Partner, Governance & Risk Business Transformation and ESG, KPMG Qatar
- Leo Chi Wai Tong, Head of Sustainability, Qatar National Bank (QNB)
- Ivano Ianelli, Board Director, ESG Foundation
- Howard Bevan, Director of Energy, the Al-Attiyah Foundation

Session Moderator:

 Nawied Jabarkhyl, Director - Head of International Media Relations at APCO Worldwide





14 SEPT 2022

THE CHANGING DYNAMICS IN THE LNG SHIPPING MARKET

Session Overview:

- The LNG industry is facing major economic and political shifts. Supply had already been struggling to keep up with rebounding demand as economic activity normalised following the peak of the pandemic before sanctions on Russian energy cargos, which subsequently reduced pipeline gas deliveries from Russia to Europe.
- Seeking energy security, and as winter approaches in the Northern Hemisphere, countries that were reliant on Russia's energy supplies have turned to LNG to meet supply shortfalls. However, much of LNG supply is delivered on pre-agreed terms for both price and quantities. The spot market for LNG is more limited, so prices for LNG have surged. This has impacted the market for LNG tankers.
- Again, the LNG tanker market has followed the LNG cargo market and matched tankers with contracts. Consequently, the spot tanker rates have also soared, hitting record highs amid strong demand and limited supply.

Session Speakers:

- Andy Parums, Oil and Gas Industry Expert
- Edward Gomersall, Global Head of Gas, LNG and Coal Research, Refinitiv LSEG
- Patricia Roberts, Managing Director, LNG Worldwide

Session Moderator:

 Stephen Cole, International News Anchor and Television Presenter



01 NOV 2022

FROM GLASGOW TO SHARM EL SHEIKH: HOW WILL COP27 RESHAPE THE GLOBAL ENERGY LANDSCAPE?

Session Overview:

- COP26 in November 2021 was one of the most significant summits on climate change, leading to new pledges from world governments to cut emissions and accelerate the green energy transition.
- The Glasgow summit yielded several breakthrough agreements, including the Global Methane Pledge, the Zero Emission Vehicle Pledge, the Deforestation Pledge, and the Glasgow Pact. Under the Glasgow Pact, countries agreed to revisit and strengthen their Nationally Determined Contributions (NDCs) in 2022 – instead of every five years.
- The last time these targets were updated was in 2020. Several countries have since committed to more ambitious emission-reduction goals in an effort to limit the global temperature rise to 1.5 °C.

Session Speakers:

- David Hone, Climate Change Adviser, Shell International
- Jill Duggan, Executive Director, Environmental Defense Fund Europe
- Johnathan Shopley, Managing Directors at External Affairs Climate Impact Partners

Session Moderator:

Axel Threlfall, Reuters Editor-at-Large





CEO ROUNDTABLE

08 March 2022

HYDROGEN OPPORTUNITIES FOR QATAR

Session Overview:

- The three methods to manufacture hydrogen were discussed, together with the colours commonly associated with different shades of the gas. Brown or grey hydrogen is made from methane via steam reforming and produces carbon emissions. Blue hydrogen uses the same process but also deploys carbon capture and storage technology to prevent the carbon dioxide (CO2) produced from entering the atmosphere. For green hydrogen, renewable energy powered electrolysers are used to split water (H2O) - into its component elements.
- The widespread demand for clean hydrogen will likely emerge only in the mid-2030s. However, during the current decade there will be a race to develop technologies to produce and deliver green hydrogen at industrial scale.
- Hydrogen production is expected to grow exponentially over the coming decades. However, while the growth would be spurred by increase in investment, reducing costs to make the gas commercially competitive would remain a significant challenge for some time.

GUEST SPEAKERS

- Dr. Kerry-Ann Adamson, Global Strategic Advisor on Hydrogen, Worley
- Dr. Jan Frederik Braun, Energy Transition Researcher
- Frank Wouters, Senior Vice President Energy Transition, Reliance Industries
- Dr. Chris Gentle, Senior Advisor, Partnerships and New Ventures, World Energy Council



Session Moderator:

Stephen Cole, International News Anchor and Television Presenter

CHAPTER 4 | EVENTS

08 June 2022

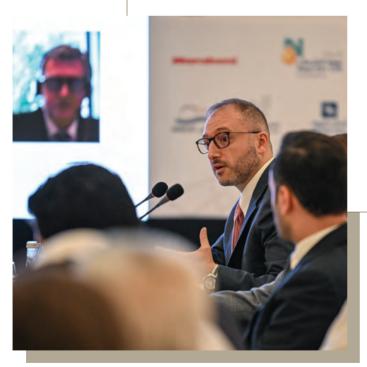
THE CURRENT AND FUTURE ROLE OF CARBON CAPTURE UTILISATION AND STORAGE (CCUS) IN THE FIGHT AGAINST CLIMATE CHANGE

Session Overview:

- Carbon capture and storage (CCS), or carbon capture, utilisation, and storage (CCUS), is a suite of technologies to capture CO2 from carbon-emitting processes and to store it safely for the long-term in underground rock formations, convert it into useful products or into stable minerals.
- CCUS involves three steps aimed at reducing the release of anthropogenic CO2 emissions into the atmosphere. Carbon dioxide is captured from anthropogenic sources, then it is transported to the injection site and permanently stored in geological storage, or it is utilised.
- The technology for carbon capture is no longer novel but is based on well understood technology.
- Clear national or international policies that encourage faster adoption of the technology, such as subsidies, tax incentives or in particular cases definite and identifiable commercial incentives, are needed.

GUEST SPEAKERS

- Braulio Pikman, Technical Director, ERM
- Ian Kuwahara, Director of Energy, and Industrial Innovation, VERRA
- Martina Lyons Programme Officer, IRENA
- Andrea Zambianci Fertiliser and Syngas Manager, Saipem



Session Moderator:

Nawied Jabarkhyl, Director - Head of International Media Relations at APCO Worldwide



12 Sep 2022

LOOKING AT THE SUPPLY OF GAS IN THE SHORT TO MEDIUM TERM

Session Overview:

- The ongoing competitions such as, Europe versus Asia for gas supplies; long versus short contracts; Russia versus Europe in terms of sanctions and supplies; and government policy versus market setting prices, were discussed extensively, and attributed as the causes of current market volatility.
- Today's record prices could have been averted by European gas buyers if they had foreseen the need to diversify their sources of supply and different types of contracts.
- While the price spikes in gas prices and the supply situation pose some challenges in the short to medium-term, the situation could be turned into opportunities in the longer-term, if suppliers and buyers are prepared to apply lessons learned and avoid the repeat of past mistake.

GUEST SPEAKERS

- Hiroshi Hashimoto, Head of Gas Group, Fossil Energies & International Cooperation Unit at the Institute of Energy Economics Japan (IEJ)
- Anne-Sophie, Corbeau, Global Research Scholar at the Center on Global Energy Policy at Columbia University's School of International and Public Affairs
- Jeffrey Moore, Manager of Asian LNG Analytics at S&P Global Platts
- Gilles Farrer, Head of LNG and Gas Asset Research at Wood Mackenzie



Session Moderator:

Eithne Treanor, Founder & CEO of ETreanor Media

OTHER HIGHLIGHTS

Мау

 The Foundation was a strategic partner with the Qatar Environment & Energy Research Institute (QEERI) for the 'Clean Hydrogen - Qatar's Role in a Net-Zero World' workshop.

September

 The Al-Attiyah Foundation was a strategic partner of the Qatar National Dialogue on Climate Change (QNDCC). The event brought together over 45 thought leaders, decision makers and climate change experts to examine international insights, case studies, policies, industrial solutions, and academic research, and explore the benefit and influence these can have in Qatar.

November

 The Foundation's Directorate of Sustainability lectured at the GORD event titled "Decarbonisation of the Oil and Gas Sector" at COP27 in Sharm El Sheikh, Egypt. His presentation explored why, when, and how the oil and gas sector should decarbonise.

March

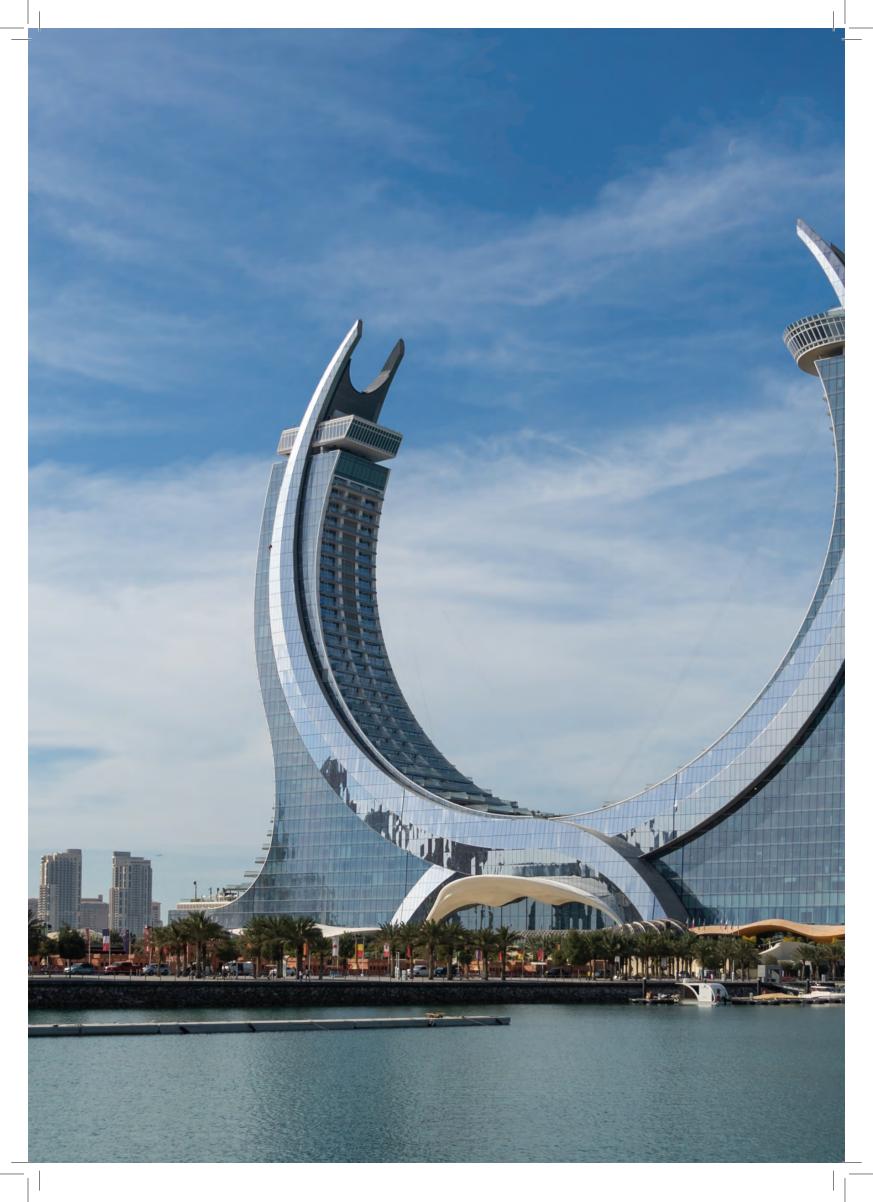
- The Foundation was a strategic partner at the Qatar National CSR Program exhibition held at Qatar University.
- The Foundation's Directorate of Sustainability joined the MENA Climate Week as a virtual panelist, in a session organised by the World Bank and IETA, on "the Latest on Carbon Markets and Pricing in the MENA Region."

June

- The Foundation's Directorate of Energy attended and participated in the 'UN Science-Policy-Business Forum TRANSFORMERS @Stockholm+50' in Stockholm, Sweden. He was one of the panelists for the dialogue called 'The Future of Energy,' that was co-convened with IRENA and the Norwegian University of Science and Technology.
- The Foundation's Directorate of Sustainability attended and took part in special two-day TED event on the role of carbon markets in New York. He moderated the workshop session titled "Fungibility of Carbon Markets" and was specially selected for a one-on-one recorded interview afterwards.

October

 The Directorate of Energy and Directorate of Sustainability gave two presentations to QNB employees on "Climate Risk and the Green Energy" and "Role of Carbon Market in Climate Mitigation".



LOOKING AHEAD

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LOOKING AHEAD 2023 AND BEYOND

The Al-Attiyah Foundation was established to deliver independent insight and analysis to decision makers in academia, government, and industry. The Foundation also organises open discussions and dialogue platforms that provide critically important information on issues affecting the energy industry and the global economy.

In 2023, the Foundation will continue to pursue the following strategic objectives:

Position the Foundation at the forefront of driving national, regional, and global action in the areas of energy and sustainable development



Provide a "platform for cooperation and networking" for industry leaders, the private sector, and the relevant government institutions



Drive transformational programmes and initiatives that have lasting socioeconomic and sustainable development impacts

Promote value-added partnership and collaboration with organisations that have similar visions, goals, focus, and programmes



Provide governments, private companies, and other non-governmental organisations with advice on matters relating to energy, sustainable development, and climate change •

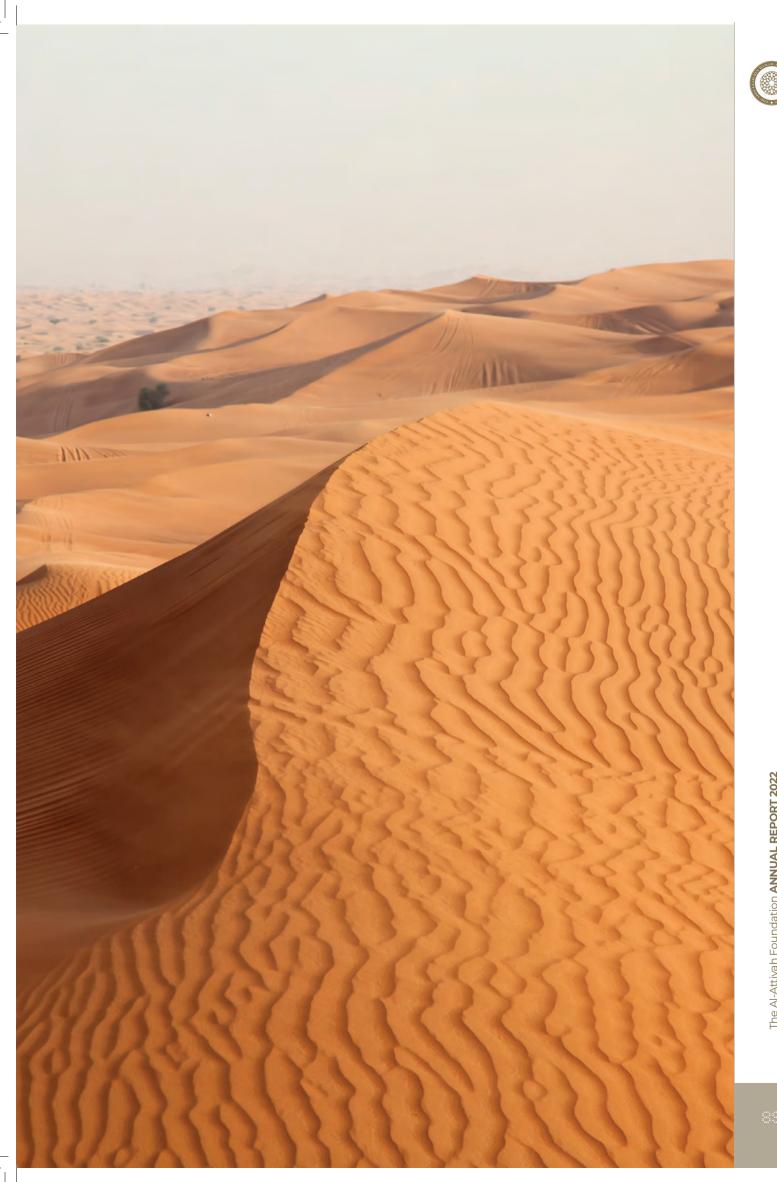
Contribute to the development of future leaders in the energy and sustainability through partnership and collaboration with academic institutions



Facilitate board members' engagement and dialogue on trending energy and sustainable development topics



Adopt a strategic approach for reducing the carbon footprint of the organisation, that is aligned with the approach of the UNFCCC Climate Neutral Now Initiative



The Al-Attiyah Foundation ANNUAL REPORT 2022



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AlAttiyahFoundation

The Abdullah Bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development is a non-profit organisation established to preserve and build upon H.E. Al-Attiyah's 40 years of service in the energy industry.

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